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ABSTRACT

This teacher's guide is designed to accompany the competency based masonry student materials (see note). It is intended for use as a reference and aid in implementing the curriculum. The guide includes these sections: Identification and Validation of Job Titles and Competencies, Functions of the Developmental Committee, Program Organization (modules and competencies), Bibliography of Resources, and Equipment List. Developed to aid in conducting/implementing the program, the final section contains a summary of each competency sheet and provides this information: module and competency number and name, equipment needed, textbook, instructor's responsibilities, and a summary and/or answers to the criterion evaluation. Answer keys to learning activities are also included. (YLB)

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Teacher's Guide

# MASONRY

Competency Based Education Curriculum

Prepared by:
Diana Long
RCA Education Service

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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## PREFACE

It is with great pleasure that we bring you another West Virginia competency based education (CBE) curriculum. This Masonry curriculum was developed for West Virginia under contract, by RCA Education Service. The effort was coordinated by staff of the Bureau of Vocational, Technical and Adult Education.

The Bureau began advocating CBE curricula in 1974. Since that time West Virginia has produced over 25 CBE curricula in various occupational areas. We also have a number of CBE curricula currently in the process of being developed and/or fieldtested.

This Masonry curriculum was inserviced and disseminated to West Virginia Masonry teachers at regional meetings during the spring of 1980. Additional copies of this curriculum are available from the:

Vocational Curriculum Laboratory
Cedar Lakes Conference Center
Ripley, West Virginia 25271
Telephone: 1-800-642-2670

I trust this material will be of assistance in your program. Any suggestions you may have for improving this curriculum may be sent to our State Curriculum Lab. Through this feedback we plan to continually update and revise our materials.

VOCATIONAL, TECHNICAL AND ADULT EDUCATION

Clarence E. Burdette

Clarence E. Burdette
Assistant State Superintendent of Schools

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The following organizations and individuals were very helpful in the development of this CBE curriculum:

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Purpose of the

Masonry

Competency Based Education Curriculum

This competency based education (CBE) curriculum, with Teacher's Guide, has been developed so that you may adapt any or all of its contents to accommodate your teaching style.

The purpose of this CBE curriculum is to provide you and your advisory committee with a set of West Virginia-validated Masonry Tasks, along with (1) the Steps needed to perform each task, (2) the Evaluation Standards, and (3) suggested Learning Activities.

Depending on your teaching style, you may want to use this material primarily to assist you in your own teaching plan, or the material has been developed in enough detail so that it may, with proper supervision, be used by your students.

How you use this CBE curriculum is up to you. It has been based on the best Masonry information and material available in 1978-79 in West Virginia and the United States.

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# INSTRUCTOR'S GUIDE: MASONRY

## I. Introduction

The State Department of Vocational, Technical and Adult Education supports the concept of Competency Based Education because it is based upon occupational relevancy and can account for skills required by an individual to perform on the job. CBE is based on mastery learning principles and requires demonstration of skill and thus can ensure that critical skills required of the entry-level worker are included and attained in training. CBE allows for individual progress, and thus can provide employable skills for some students after short periods of training and can also lead to preparation for advanced jobs.

This instructor's guide is to be used as a reference for instructors and an aid in implementing the curriculum in their program. The following sections are included in the guide.


I. Introduction
II. Identification and Validation of Job Titles and Competencies
III. Functions of the Developmental Committee
IV. Program Organization
V. Bibliography of Resources
VI. Equipment List
VII. Implementation of Curriculum

II. Identification and Validation of Job Titles and Competencies

The competencies for this program are based upon the V-TECS Catalog: Masonry. The masonry Catalog identified two specific job titles from the Dictionary of Occupational Titles.

| | |
|---|---|
| Bricklayer, Construction | 861.381-010 |
| Bricklayer, Brick and Tile | 861.381-014 |

RCA contacted the local union and it was found that there were two main job titles used in West Virginia. As in the V-TECS Catalog, only one job is used in the curriculum which is Bricklayer.

The competency list was sent to masonry instructors throughout the state. The instructors reviewed the list, made additions, deletions and revisions.

The competencies were then validated by the Local Union No. 9 Bricklayer Masons and Marble Masons.

III. Functions of the Developmental Committee

The Developmental Committee was established to guide the development of the curriculum. The committee consisted of Dr. Fred Harrington, State Curriculum Supervisor, Jim Rosebrook and Marshall Hamilton, Technical and Industrial Supervisors. The committee met on several occasions for the following purposes.

1. Establish curriculum format and clarify project objectives.
2. Review major job titles and competencies.
3. Review survey results.
4. Finalize competency list.
5. Review student materials.

IV. Program Organization

The following is a listing of the modules and competencies included in the curriculum.

| | |
|---|---|
| MODULE 01 | Occupational Knowledge |
| COMPETENCY STATEMENT 01 | Describes working conditions and earnings common to masons. |
| COMPETENCY STATEMENT 02 | Describes educational and technical requirements for masons. |
| COMPETENCY STATEMENT 03 | Describes employment outlook for masonry occupations. |
| MODULE 02 | Leveling, Gaging and Squaring |
| COMPETENCY STATEMENT 01 | Gage masonry wall with mortar scale. |
| COMPETENCY STATEMENT 02 | Gage masonry wall with story pole. |
| COMPETENCY STATEMENT 03 | Determine if surface is plumb, level and square. |
| MODULE 03 | Laying Basics |
| COMPETENCY STATEMENT 01 | Cut a bat closure. |
| COMPETENCY STATEMENT 02 | Cut a queen closure. |
| COMPETENCY STATEMENT 03 | Bond a wall. |
| COMPETENCY STATEMENT 04 | Mix mortar with power mixer. |
| COMPETENCY STATEMENT 05 | Lay a stretcher course. |
| COMPETENCY STATEMENT 06 | Lay a header course (full). |
| COMPETENCY STATEMENT 07 | Lay corners. |
| MODULE 04 | Tooling and Pointing Joints |
| COMPETENCY STATEMENT 01 | Tool concave joints. |

| | |
|---|---|
| MODULE 04 | Tooling and Pointing Joints |
| COMPETENCY STATEMANT 02 | Tool rake joints. |
| COMPETENCY STATEMENT 03 | Tool squeeze joints. |
| COMPETENCY STATEMENT 04 | Point a wall. |
| MODULE 05 | Patterns. |
| COMPETENCY STATEMENT 01 | Lay rowlock, sailor, shiner and soldier courses. |
| COMPETENCY STATEMENT 02 | Lay common bond pattern. |
| COMPETENCY STATEMENT 03 | Lay a Flemish bond pattern. |
| COMPETENCY STATEMENT 04 | Lay a stack bond pattern. |
| COMPETENCY STATEMENT 05 | Lay a diamond pattern. |
| COMPETENCY STATEMENT 06 | Lay a herringbone bond pattern. |
| COMPETENCY STATEMENT 07 | Lay a basket weave pattern. |
| MODULE 06 | Wall Construction |
| COMPETENCY STATEMENT 01 | Reinforce brick masonry. |
| COMPETENCY STATEMENT 02 | Construct brick veneer wall. |
| COMPETENCY STATEMENT 03 | Construct cavity wall. |
| COMPETENCY STATEMENT 04 | Form a corbel. |
| MODULE 07 | Laying Columns |
| COMPETENCY STATEMENT 01 | Build square brick columns. |
| COMPETENCY STATEMENT 02 | Build rectangular brick columns. |
| COMPETENCY STATEMENT 03 | Build round brick columns. |
| MODULE 08 | Preparing Foundations and Footings. |
| COMPETENCY STATEMENT 01 | Build forms for concrete. |

| | |
|---|---|
| MODULE 08 | Preparing Foundations and Footings |
| COMPETENCY STATEMENT 02 | Construct piers. |
| COMPETENCY STATEMENT 03 | Construct a wall containing pilasters. |
| COMPETENCY STATEMENT 04 | Raise a foundation. |
| MODULE 09 | Constructing Buildings |
| COMPETENCY STATEMENT 01 | Install wall ties. |
| COMPETENCY STATEMENT 02 | Place beams. |
| COMPETENCY STATEMENT 03 | Pour concrete. |
| COMPETENCY STATEMENT 04 | Make reinforced lintels. |
| COMPETENCY STATEMENT 05 | Set lintels. |
| COMPETENCY STATEMENT 06 | Construct sills (Rowlock). |
| COMPETENCY STATEMENT 07 | Set window |
| COMPETENCY STATEMENT 08 | Use anchors to tie walls together. |
| COMPETENCY STATEMENT 09 | Lay a flight of steps. |
| MODULE 10 | Performing Miscellaneous Masonry Work |
| COMPETENCY STATEMENT 01 | Clean brick walls. |
| COMPETENCY STATEMENT 02 | Lay glass blocks. |
| COMPETENCY STATEMENT 03 | Lay structural clay tile. |
| COMPETENCY STATEMENT 04 | Lay masonry floors. |
| COMPETENCY STATEMENT 05 | Lay masonry walks. |
| COMPETENCY STATEMENT 06 | Estimate masonry materials needed. |

| | |
|---|---|
| MODULE 11 | Arches |
| COMPETENCY STATEMENT 01 | Build a roman arch. |
| COMPETENCY STATEMENT 02 | Build a soldier arch. |
| MODULE 12 | Constructing Residential Chimneys and Fireplaces |
| COMPETENCY STATEMENT 01 | Lay bottom of fireplace. |
| COMPETENCY STATEMENT 02 | Lay back of fireplace |
| COMPETENCY STATEMENT 03 | Lay sides of fireplace. |
| COMPETENCY STATEMENT 04 | Insert a damper. |
| COMPETENCY STATEMENT 05 | Set flues. |
| COMPETENCY STATEMENT 06 | Enclose heatilator. |
| COMPETENCY STATEMENT 07 | Build a double face chimney (Smoke Chamber). |
| COMPETENCY STATEMENT 08 | Lay a mantel. |

V. Bibliography of Resources

The curriculum is based upon the following textbooks and materials. Loan copies of the textbooks and purchasing information are available from the Curriculum Laboratory at Cedar Lakes.

Dalzell, Ralph J. and Gilbert Townsend; Masonry Simplified Third Edition; American Technical Society, Chicago, Illinois, 1973.

Dezettel, Louis M.; Masons and Builders Library, Theodore Audel and Company, Indianapolis, Indiana, 1977.

Kicklighter, Clois E.; Modern Masonry; Goodhart - Willcox Co., South Holland, Indiana, 1977.

Putman, Robert; Bricklaying Skill and Practice; American Technical Society, Chicago, Illinois, 1974.

Ray, J. Edgar; The Art of Bricklaying Chas. A. Bennett Co., Peoria, Illinois, 1971.

## VI. Equipment List

Bricklayer Jointer, Round
Hammers, Brick
Line Block
Line, Nylon
Wheelbarrows
Mortar Boards
Mortar Mixer
Tongs, Brick
Rules, Brickspacing
Trowels, Brick
Bricklayer Jointer, Rake
Steel Tape, 100'
Safety Hats
Shovels, Square Point, Long Handle
Block Jointer
Bricklayer Jointer, Sled Runner
Tuck Pointer, Assorted
Mortar Box
Hoes, Mortar
Hoses, Rubber
Saw, Masonry
Bags, Tool
Line, Chalk
Squares, Framing
Bricklayer Jointer, V
Rules, Modular
Brushes, Bricklayer
Level, Brass Bound, Wood
Blades, Carborundum
Brick Sets
Flat Bed Barrow
Brushes, Acid
Corner Poles
Plumb Bobs
Shovels, Round Point, Long Handle
Cold Chisels
Cord, Extension
Level, Wood with Metal Trim
Trowels, Pointed
Wrench, Adjustable
Saw, Hand
Hammer, Claw
Snips, Tin
Blades, Diamond
Goggles
Cutter, Bolt
Saw, Portable Electric
Pick, Mattock
Steel Tape, 50'
Hammer, Sledge
Brushes, Wire, Combination
Brush and Scraper
Pliers, Utility
Rope, Manila
Wrenches, Open End
Shovels, Square Point, Short Handle
Screwdrivers, Phillips
Gloves, Rubber
Screwdrivers, Flat-Blade
Star Drills
Bricklayer Jointer, Weather
Crow Bars
Level, Contractors
Vise Grips
Block and Tackle
Wrecking Bar
Punches
Floats, Rubber
Pliers, Diagonal Cutting
Edgers, Cement
Stones, Rubbing, With Handles
Trowels, Cement Finishing
Plugging Chisel
Sharp Shooter Shovel
Sidewalk Scraper
Square, Tri
Cement Center Groovers
Trowels, Plastering
Scaffolds
Tampers, Hand
Hawks, Plastering
Jitterbug
Compass
Trowels, Power Cement Finishing

VII. Implementation of Curriculum

The following guide was developed to aid in conducting the masonry program. Each competency sheet is summarized as to equipment needed, instructor's responsibilities and a summary and/or answers to the Criterion Evaluation. The guide does not include regular instructor activities such as supervising students' practice, or checking student progress.

INSTRUCTOR'S GUIDE

MASONRY

MODULE 01 — Occupational Knowledge

COMPETENCY STATEMENT 01 — Describes working conditions and earnings common to masons.

EQUIPMENT NEEDED — None

TEXTBOOK — Occupational Outlook Handbook
Masonry Simplified
Bricklaying Skill and Practice

INSTRUCTOR'S RESPONSIBILITIES

Arrange for a lecture by a representative of the local union for Learning Activity 3.

SUMMARY OF EVALUATION

True - False test. Students must score at least 80%.

ANSWERS

Evaluation 01/01

1. true
2. false
3. true
4. false
5. true
6. true
7. false
8. true
9. false
10. false

MODULE 01 — Occupational Knowledge

COMPETENCY STATEMENT 02 — Describes educational and technical requirements for masons.

EQUIPMENT NEEDED — None

TEXTBOOK — Occupational Outlook Handbook

INSTRUCTOR'S RESPONSIBILITIES

None

SUMMARY OF EVALUATION

Report, oral or written. Students must use at least two different references.

MODULE 01 — Occupational Knowledge

COMPETENCY STATEMENT 03 — Describes employment outlook for masonry occupations.

EQUIPMENT NEEDED — None

TEXTBOOK — Occupational Outlook Handbook

INSTRUCTOR'S RESPONSIBILITIES

None

SUMMARY OF EVALUATION

Report, oral or written. Students must use at least two references.

MODULE 02 — Leveling, Gaging and Squaring

COMPETENCY STATEMENT 01 — Gage masonry wall with mortar scale.

EQUIPMENT NEEDED — Folding Rule
Retractable Steel Tape

TEXTBOOK — Bricklaying Skill and Practice

INSTRUCTOR'S RESPONSIBILITIES

Lecture/demonstration for Learning Activity 1.

SUMMARY OF EVALUATION

Gaging a brick wall. Students must receive a satisfactory rating on each item of the Student Checklist.

ANSWER SHEET

STUDENT HANDOUT 02/01/02

PRACTICE PROBLEMS

1. 1 1/16"
2. 2 1/2"
3. 4 15/16"
4. 5 1/4"
5. 3 3/16"
6. 3/4"
7. 2 1/8"
8. 2 7/8"
9. 4 5/16"
10. 6"

MODULE 02 — Leveling, Gaging and Squaring

COMPETENCY STATEMENT 02 — Gage masonry wall with story pole.

EQUIPMENT NEEDED — Straight pieces of wood
Rule or tape
Marker

TEXTBOOK — None

INSTRUCTOR'S RESPONSIBILITIES

Lecture/demonstration for Learning Activity 1.

SUMMARY OF EVALUATION

Measuring a wall to find out if it is plumb, level, and square. Students must receive a satisfactory rating on each item of the Student Checklist.

MODULE 02 — Leveling, Gaging and Squaring

COMPETENCY STATEMENT 03 — Determine if surface is plumb, level and square.

EQUIPMENT NEEDED

Spirit Level
T Square
Plumb Bob

TEXTBOOK — Bricklaying Skill and Practice

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 2.
2. Lecture/demonstration for Learning Activity 3.

SUMMARY OF EVALUATION

Measuring a wall to find out if it is plumb, level, and square. Students must receive a satisfactory rating on each item of the Student Checklist.

MODULE 03 — Laying Basics

COMPETENCY STATEMENT 01 — Cut a bat closure.

EQUIPMENT NEEDED

Goggles
Brick hammer
Chisel
Wood Mallet

TEXTBOOK

Masonry Simplified
Masons and Builders Library

INSTRUCTOR'S RESPONSIBILITIES

Lecture/demonstration for Learning Activity 1.
Lecture/demonstration for Learning Activity 4.

SUMMARY OF EVALUATION

Selecting proper tools and cutting bat closures. Students must receive a satisfactory rating on each item of the Student Checklist.

MODULE 03 — Laying Basics

COMPETENCY STATEMENT 02 — Cut a queen closure.

EQUIPMENT NEEDED

Goggles
Brick hammer
Chisel
Wood Mallet

TEXTBOOK

Masonry Simplified
Masons and Builders Library

INSTRUCTOR'S RESPONSIBILITIES

Prepare display for Learning Activity 2.

SUMMARY OF EVALUATION

Selecting proper tools and cutting a queen closure. Students must receive a satisfactory rating on each item of the Student Checklist.

MODULE 03 — Laying Basics

COMPETENCY STATEMENT 03 — Bond a wall.

EQUIPMENT NEEDED
Chalk line
Brick
Rule

TEXTBOOK
Modern Masonry
Masonry Simplified

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 2.
2. Prepare a quiz for Learning Activity 3.
3. Demonstration for Learning Activity 5.

SUMMARY OF EVALUATION

Laying out a wall 2' high and 5' long.

MODULE 03 — Laying Basics

COMPETENCY STATEMENT 04 — Mix mortar with power mixer.

EQUIPMENT NEEDED

Lime
Sand
Cement
Water
Power mixer
Mortar box

TEXTBOOK — Bricklaying Skill and Practice

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture for Learning Activity 2.
2. Prepare a quiz for Learning Activity 4.

SUMMARY OF EVALUATION

Mixing mortar with power mixer. Students must receive a satisfactory rating on each item of the Student Checklist without using references.

MODULE 03 — Laying Basics

COMPETENCY STATEMENT 05 — Lay a stretcher course.

EQUIPMENT NEEDED

Chalk line
Bricks
Blocks
Trowel
Mortar
Level

TEXTBOOK

Bricklaying Skill and Practice
Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

Lecture for Learning Activity 5.

SUMMARY OF EVALUATION

Laying a header course without using references. Students must receive a satisfactory rating on each item of the Student Checklist.

MODULE 03 — Laying Basics

COMPETENCY STATEMENT 06 — Lay a header course (full).

EQUIPMENT NEEDED

Brick
Block
Trowel
Mortar
Level
Square

TEXTBOOK — Bricklaying Skills and Practice

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 2.
2. Lecture for Learning Activity 4.
3. Prepare a quiz for Learning Activity 4.

SUMMARY OF EVALUATION

Laying a header course without using references. Students must receive a satisfactory rating on each item of the Student Checklist.

MODULE 03 — Laying Basics

COMPETENCY STATEMENT 07 — Lay corners.

EQUIPMENT NEEDED

Brick
Block
Mortar
Leeel
Rule
Chalk line
Square
Trowel

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 3.
2. Lecture/demonstration for Learning Activity 6.

SUMMARY OF EVALUATION

Laying a corner without using references. The corner must be square, level, plumb, straightedged, and all corners laid on 6.

MODULE 04 Tooling and Pointing Joints

COMPETENCY STATEMENT 01 Tool Concave joints.

EQUIPMENT NEEDED
Brick
Mortar
Jointers
Brush
Sled runner

TEXTBOOK Bricklaying Skill and Practice

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 2.
2. Prepare a quiz for Learning Activity 2.
3. Lecture/demonstration for Learning Activity 3.
4. Develop specifications for Evaluation.

SUMMARY OF EVALUATION

Tooling concave, convex, and V joints without using references. All joints must be uniform and smooth with no double imprints.

MODULE 04 — Tooling and Pointing Joints

COMPETENCY STATEMENT 02 — Tool rake joints.

EQUIPMENT NEEDED

Rake jointer
Bricks
Mortar
Brush

TEXTBOOK — None

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 1.
2. Prepare a quiz for Learning Activity 2.
3. Develop specifications for Evaluation.

SUMMARY OF EVALUATION

Tooling rake joints without using references. All joints must be uniformly raked, smooth, clean, free of holes, and to the depth stated and the specifications.

MODULE 04 — Tooling and Pointing Joints

COMPETENCY STATEMENT 03 — Tool squeeze joints.

EQUIPMENT NEEDED
Bricks
Mortar
Trowel

TEXTBOOK — None

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 1.
2. Prepare a quiz for Learning Activity 2.

SUMMARY OF EVALUATION

Tooling squeeze joints. All bricks must be level with squeeze mortar appearing on all joints.

MODULE 04 — Tooling and Pointing Joints

COMPETENCY STATEMENT 04 — Point a wall.

EQUIPMENT NEEDED

Pointing trowel
Tuck pointer
Chisel
Brush
Water
Mortar

TEXTBOOK — Bricklaying Skill and Practice
Masons and Builders Library

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 2.
2. Prepare a quiz for Learning Activity 2.
3. Lecture/demonstration for Learning Activity 4.

SUMMARY OF EVALUATION

Pointing a wall without using references. All joints must be full and finished. Bond between new and old mortar must hold.

MODULE 05 — Patterns

COMPETENCY STATEMENT 01 — Lay rowlock, sailor, shiner and soldier courses.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Chalk line
Level
Jointing tools
Brush

TEXTBOOK — Masons and Builders Library

INSTRUCTOR'S RESPONSIBILITIES

Prepare a quiz for Learning Activity 1.

SUMMARY OF EVALUATION

Laying rowlock, sailor, shiner, and soldier courses without using references. Courses must be straight and level with no holes or cracks. Joints must be smooth and waterproof.

MODULE 05 — Patterns

COMPETENCY STATEMENT 02 — Lay common bond pattern.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Prepare a quiz for Learning Activity 1.
2. Lecture for Learning Activity 2.
3. Develop specifications for Evaluation.

SUMMARY OF EVALUATION

Laying an American or common bond without using references. Students must score a satisfactory rating on each item of the Student Checklist.

MODULE 05 — Patterns

COMPETENCY STATEMENT 03 — Lay a Flemish bond pattern.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture for Learning Activity 3.
2. Develop specifications for Learning Activity 4 and Evaluation.

SUMMARY OF EVALUATION

Laying an 8 inch Flemish bond pattern with Dutch corners. Pattern must be level, plumb, straight edged, ranged and tooled according to specifications.

MODULE 05 — Patterns

COMPETENCY STATEMENT 04 — Lay a stack bond pattern.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

Lecture/demonstration for Learning Activity 2.

SUMMARY OF EVALUATION

Laying a stack bond without using references. The pattern must be plumb, straight and level with no holes or cracks. The vertical joint must be aligned, smooth and waterproof. The bricks cannot overlap.

MODULE 05 — Patterns

COMPETENCY STATEMENT 05 — Lay a diamond pattern.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool

TEXTBOOK — Masons and Builders Library

INSTRUCTOR'S RESPONSIBILITIES

Lecture/demonstration for Learning Activity 3.

SUMMARY OF EVALUATION

Laying an 8 inch diamond pattern according to given specifications without using references.

MODULE 05 — Patterns

COMPETENCY STATEMENT 06 — Lay a herringbone bond pattern.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool

TEXTBOOK — The Art of Bricklaying

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 3.
2. Develop specifications for Learning Activity 4 and Evaluation.

SUMMARY OF EVALUATION

Laying herringbone pattern without using references. All bricks must be laid at 45° angle with the appearance of a "W" or "M".

MODULE 05 — Patterns

COMPETENCY STATEMENT 07 — Lay a basket weave pattern.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 2.
2. Prepare a quiz for Learning Activity 3.
3. Develop specifications for Learning Activity 4.

SUMMARY OF EVALUATION

Laying a basket weave pattern without using references. All joints must be uniform and the area must be plumb.

MODULE 06 — Wall Construction

COMPETENCY STATEMENT 01 — Reinforce brick masonry.

EQUIPMENT NEEDED

Wire
Reinforcing rods, various sizes
Grout
Brick
Mortar

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 2.
2. Prepare a quiz for Learning Activity 2.
3. Lecture/demonstration for Learning Activity 3.
4. Develop specifications for Evaluation.

SUMMARY OF EVALUATION

Reinforcing masonry without using references. The wire must be placed horizontally 16 inches on center and must not be exposed to the face of the wall.

MODULE 06 — Wall Construction

COMPETENCY STATEMENT 02 — Construct brick veneer wall.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb Bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool
Ties
Blueprints

TEXTBOOK — Masons and Builders Library

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 2.
2. Develop blueprint specifications for Learning Activity 3 and Evaluation.

SUMMARY OF EVALUATION

Laying a veneer wall according to specifications without using referances. Wall must be plumb, straight, level, and free of cracks or holes. Wall must have 1 inch air space between sheathing and brick.

MODULE 06 — Wall Construction

COMPETENCY STATEMENT 03 — Construct cavity wall.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool
Ties

TEXTBOOK

Modern Masonry
Bricklaying Skill and Practice

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 4.
2. Develop specifications for the Evaluation.

SUMMARY OF EVALUATION

Laying a cavity wall according to specifications without using references.

MODULE 06 — Wall Construction

COMPETENCY STATEMENT 04 — Form a corbel.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool
Ties (Z-bars, wall ties, etc.)

TEXTBOOK — Bricklaying Skill and Practice

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 3.
2. Develop specifications for Learning Activity 4 and Evaluation.

SUMMARY OF EVALUATION

Corbeling a wall. Students must receive a satisfactory rating on each item of the Student Checklist.

MODULE 07 — Laying Columns.

COMPETENCY STATEMENT 01 — Build square brick columns.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool

TEXTBOOK — Bricklaying Skill and Practice

INSTRUCTOR'S RESPONSIBILITIES

1. Prepare a quiz for Learning Activity 1.
2. Lecture/demonstration for Learning Activity 2.

SUMMARY OF EVALUATION

Laying square brick column without using references. Column must be level, square, and plumb.

MODULE 07 — Laying Columns.

COMPETENCY STATEMENT 02 — Build rectangular brick columns.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 2.
2. Develop specifications for Evaluation.

SUMMARY OF EVALUATION

Building a rectangular brick column without using references. The column must be plumb, straight, and level with each course laid in the proper order.

MODULE 07 — Laying Columns

COMPETENCY STATEMENT 03 — Build round brick columns.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool

TEXTBOOK — None

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture for Learning Activity 1.
2. Lecture/demonstration for Learning Activity 3.

SUMMARY OF EVALUATION

Building a round brick column without using references. The column must be level, plumb and ranged.

MODULE 08 — Preparing Foundations and Footings

COMPETENCY STATEMENT 01 — Build forms for concrete.

EQUIPMENT NEEDED

Construction lumber
5/8" steel rods
Wire
3/8" steel crossbars
Grade stakes
Blueprints
Concrete

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 3.
2. Lecture/demonstration for Learning Activity 4.
3. Prepare a quiz for Learning Activity 4.

SUMMARY OF EVALUATION

Building a footing according to blueprint specifications without using references.

MODULE 08 — Preparing Foundations and Footings

COMPETENCY STATEMENT 02 — Construct piers.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool
Blueprints

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture for Learning Activity 2.
2. Prepare a quiz for Learning Activity 2.
3. Lecture/demonstration for Learning Activity 3.
4. Provide blueprint specifications for Learning Activity 4 and Evaluation.

SUMMARY OF EVALUATION

Building a pier. The pier must be square, level, plumb and straight edged. All work must be jointed and free of cracks and holes.

MODULE 08 — Preparing Foundations and Footings

COMPETENCY STATEMENT 03 — Construct a wall containing pilasters.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool
Anchors
Metal ties
Blueprints

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Prepare a quiz for Learning Activity 3.
2. Lecture for Learning Activity 4.
3. Prepare a quiz for Learning Activity 4.
4. Lecture/demonstration for Learning Activity 5.
5. Prepare specifications for the Evaluation.

SUMMARY OF EVALUATION

Constructing a wall containing a pilaster, without using referances. The pilaster must be plumb, level, square with the wall and anchored solidly.

MODULE 08 — Preparing Foundations and Footings

COMPETENCY STATEMENT 04 — Raise a foundation.

EQUIPMENT NEEDED

Brick or Block
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture for Learning Activity 2.
2. Prepare a quiz for Learning Activity 2.
3. Lecture/demonstration for Learning Activity 3.
4. Prepare specifications for Learning Activity 4 and Evaluation.

SUMMARY OF EVALUATION

Building a masonry foundation wall, without using referances. The wall must be level, plumb, straight, without bats between leads, and free of cracks or holes.

MODULE 09 — Constructing Buildings

COMPETENCY STATEMENT 01 — Install wall ties.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool
Metal ties

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Prepare a quiz for Learning Activity 2.
2. Lecture/demonstration for Learning Activity 3.
3. Prepare specifications for the Evaluation.

SUMMARY OF EVALUATION

Installing wall ties. The ties must be installed to the frame wall 16 inches or center horizontally and vertically and fasten to the masonry wall at 90° angle. The wall tie must not be visible on face side.

MODULE 09 — Construct Buildings

COMPETENCY STATEMENT 02 — Place beams.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool

TEXTBOOK — None

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 1.
2. Lecture/demonstration for Learning Activity 2.

SUMMARY OF EVALUATION

Setting a beam. The beam must be level, plumb and the weight must be distributed evenly on both sides of the opening crossed.

MODULE 09 — Constructing Buildings

COMPETENCY STATEMENT 03 — Pour concrete.

EQUIPMENT NEEDED

Portable cement mixer
Wheelbarrows
Shovels
Concrete
10 gage reinforcement wire
Lumber
Tamper
Screed board
Expansion joints
Bullfloat

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Prepare a quiz for Learning Activity 2.
2. Lecture/demonstration for Learning Activity 3.
3. Lecture/demonstration for Learning Activity 4.
4. Lecture/demonstration for Learning Activity 5.
5. Prepare specifications for Evaluation.

SUMMARY OF EVALUATION

Pouring concrete. The concrete must be at least 4" thick and finished even with the top of the form. Water must not stand on the finished surface.

MODULE 09 — Constructing Buildings

COMPETENCY STATEMENT 04 — Make reinforced lintels.

EQUIPMENT NEEDED

Portable cement mixer
Shovels
Wheelbarrows
Concrete
Lumber
Reinforcing rods

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture for Learning Activity 1.
2. Prepare a quiz for Learning Activity 1.
3. Lecture/demonstration for Learning Activity 3.
4. Prepare specifications for Learning Activity 4 and Evaluation.

SUMMARY OF EVALUATION

Making a reinforced lintel. The lintel must have 2 steel rods spaced equally and centered. The bottom must be smooth and straight.

MODULE 09 — Constructing Buildings

COMPETENCY STATEMENT 05 — Set lintels.

EQUIPMENT NEEDED

Brick or Block
Mortar
Trowel
Plumb bob
Level
Metal plates
Lintels
Blueprints

TEXTBOOK — Masons and Builders Library

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 3.
2. Lecture for Learning Activity 4.
3. Prepare a quiz for Learning Activity 4.
4. Prepare specifications for Learning Activity 5 and Evaluation.

SUMMARY OF EVALUATION

Setting a lintel. The lintel must have a minimum of 8" bearing, and be level without resting on top of frame. It must be plumb with the face of the wall. References may not be used.

MODULE 09 — Constructing Buildings

COMPETENCY STATEMENT 06 — Construct sills (Rowlock).

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool
Flashing

TEXTBOOK — Bricklaying Skill and Practice

INSTRUCTOR'S RESPONSIBILITIES

1. Demonstration for Learning Activity 1.
2. Lecture for Learning Activity 4.
3. Prepare a quiz for Learning Activity 4.
4. Lecture/demonstration for Learning Activity 5.
5. Prepare specifications for the Evaluation.

SUMMARY OF EVALUATION

Building a rowlock window sill without using references. All bricks must be smooth and tight against the bottom of the windows. All head joints must be equal and the fall must be away from the window. The bricks must project equally.

MODULE 09 — Constructing Buildings

COMPETENCY STATEMENT 07 — Set window.

EQUIPMENT NEEDED

Window unit
Flashing
Nails
Hammer

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture for Learning Activity 2.
2. Prepare a quiz for Learning Activity 2.
3. Demonstration for Learning Activity 3.
4. Demonstration for Learning Activity 4.
5. Prepare specifications for Learning Activity 5 and Evaluation.

SUMMARY OF EVALUATION

Setting a window without using references. The sides, bottom and top of the window must fit tightly in window opening and frames must stand vertically plumb and square with the wall.

MODULE 09 — Constructing Buildings

COMPETENCY STATEMENT 08 — Use anchors to tie walls together.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool
Anchors, various types
Joists

TEXTBOOK — Masons and Builders Library

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture for Learning Activity 2.
2. Prepare a quiz for Learning Activity 2.
3. Prepare specifications for Learning Activity 3 and Evaluation.

SUMMARY OF EVALUATION

Using anchors to tie walls together. All anchors must be installed horizontally on 16 or 32 inch centers and 16 inches apart vertically.

MODULE 09 — Constructing Buildings

COMPETENCY STATEMENT 09 — Lay a flight of steps.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool
Blueprints

TEXTBOOK — Masons and Builders Library

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 2.
2. Prepare specifications for Learning Activity 3 and Evaluation.

SUMMARY OF EVALUATION

Laying three brick steps. The steps must be laid 3 feet by 3 feet with 7 inch risers, 12 inch treads, specified fall. It must be level, plumb, straight edged and aligned.

MODULE 10 — Performing Miscellaneous Masonry Work

COMPETENCY STATEMENT 01 — Clean brick walls.

EQUIPMENT NEEDED

Paddles or scrapers
Chisel
Wire brush
Water hose
Trisodium phosphate
Household detergent
Fiber brush
Hydrochloric acid
Nonmetallic container

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

Lecture for Learning Activity 2.

SUMMARY OF EVALUATION

Cleaning a section of brick wall. Students must receive a satisfactory rating on each item of the Student Checklist.

MODULE 10 — Performing Miscellaneous Masonry Work

COMPETENCY STATEMENT 02 — Lay glass blocks.

EQUIPMENT NEEDED

Chalk line
Glass blocks
Plumb bob
Level
Mortar
Trowel
Rubber tip cover
Wall ties
Pointing tool

TEXTBOOK — Masons and Builders Library

INSTRUCTOR'S RESPONSIBILITIES

1. Prepare a quiz for Learning Activity 2.
2. Lecture for Learning Activity 3.
3. Lecture/demonstration for Learning Activity 4.
4. Prepare specifications for Learning Activity 6 and Evaluation.

SUMMARY OF EVALUATION

Laying a wall with glass bircks. The wall must be level, plumb, straight edged, ranged and jointed according to specifications.

MODULE 10 — Performing Miscellaneous Masonry Work

COMPETENCY STATEMENT 03 — Lay structural clay tile.

EQUIPMENT NEEDED

Clay tiles
Mortar
Trowel
Chalk line
Level
Plumb bob
Pointing tool

TEXTBOOK — Masons and Builders Library

INSTRUCTOR'S RESPONSIBILITIES

1. Prepare a quiz for Learning Activity 2.
2. Lecture/demonstration for Learning Activity 3.
3. Lecture/demonstration for Learning Activity 4.
4. Prepare specifications for Learning Activity 5 and Evaluation.

SUMMARY OF EVALUATION

Laying clay tile. Tile must be level, plumb, straight edged, ranged and tooled properly.

MODULE 10 — Performing Miscellaneous Masonry Work

COMPETENCY STATEMENT 04 — Lay masonry floors.

EQUIPMENT NEEDED

Bricks
Cement grout
Hand tamper
Trowel
Level

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture for Learning Activity 2.
2. Lecture/demonstration for Learning Activity 4.
3. Prepare specifications for Learning Activity 5 and Evaluation.

SUMMARY OF EVALUATION

Laying a basket weave pattern masonry floor. The border bricks on opposite ends must match, the floor must be level with border, and the pattern must be uniform with all joints fully fitted and finished.

MODULE 10 — Performing Miscellaneous Masonry Work

COMPETENCY STATEMENT 05 — Lay masonry walks.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Jointing tools
Brick hammer
Chisel
Line

TEXTBOOK — Masons and Builders Library

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture/demonstration for Learning Activity 2.
2. Lecture/demonstration for Learning Activity 3.
3. Prepare specifications for Learning Activity 4 and Evaluation.

SUMMARY OF EVALUATION

Laying a brick walk in the running bond pattern. The walk must be level and straight with head and bed joints equalized and head joints in line with the pattern.

MODULE 10 — Performing Miscellaneous Masonry Work

COMPETENCY STATEMENT 06 — Estimate masonry materials needed.

EQUIPMENT NEEDED — House plans/blueprints

TEXTBOOK — Masonry Simplified

Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Prepare a qyiz for Learning Activity 1.
2. Prepare a quiz for Learning Activity 2.
3. Lecture/demonstration for Learning Activity 6.

SUMMARY OF EVALUATION

Estimating materials needed with 95° accuracy for a given section of blueprint.

MODULE 11 — Arches

COMPETENCY STATEMENT 01 — Build a roman arch.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool
Wooden arch form

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Prepare a quiz for Learning Activity 2.
2. Lecture/demonstration for Learning Activity 5.
3. Lecture for Learning Activity 6.
4. Lecture/demonstration for Learning Activity 7.
5. Prepare specifications for Learning Activity 8 and Evaluation.

SUMMARY OF EVALUATION

Building a roman arch.

MODULE 11 — Arches

COMPETENCY STATEMENT 02 — Build a soldier arch.

EQUIPMENT NEEDED

Brick
Mortar
Trowel
Level
Plumb bob
Square
Jointing tools
Brick hammer
Chisel
Wood mallet
Pointing tool
Wooden arch form

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Prepare a quiz for Learning Activity 2.
2. Lecture/demonstration for Learnnng Activity 5.
3. Lecture for Learning Activity 6.
4. Lecture/demonstration for Learning Activity 7.
5. Prepare specifications for Learning Activity 8 and Evaluation.

SUMMARY OF EVALUATION

Building a soldier arch.

MODULE 12 — Constructing Residential Chimneys and Fireplaces

COMPETENCY STATEMENT 01 — Lay bottom of fireplace.

EQUIPMENT NEEDED

Reinforced concrete
Brick
Firebrick
Fire clay mortar
Clean out door
Level
Plumb bob
Blueprints

INSTRUCTOR'S RESPONSIBILITIES

1. Prepare a quiz for Learning Activity 1.
2. Lecture/demonstration for Learning Activity 3.
3. Prepare a quiz for Learning Activity 3.
4. Lecture for Learning Activity 4.
5. Prepare building specifications for Learning Activities 5, 7, and the Evaluation.
6. Lecture/demonstration for Learning Activity 6.

SUMMARY OF EVALUATION

Laying the bottom of a fireplace. Students must receive a satisfactory rating on each item of the Student Checklist.

MODULE 12 — Constructing Residential Chimneys and Fireplaces

COMPETENCY STATEMENT 02 — Lay back of fireplace.

EQUIPMENT NEEDED

Blueprints
Plumb bob
Level
Brick
Firebrick
Mortar
Fire clay mortar
Trowel
Concrete
Damper

TEXTBOOK — Bricklaying Skill and Practice

INSTRUCTOR'S RESPONSIBILITIES

Lecture/demonstration for Learning Activity 2.

SUMMARY OF EVALUATION

Laying the back of a fireplace according to specifications given.

MODULE 12 — Constructing Residential Chimneys and Fireplaces

COMPETENCY STATEMENT 03 — Lay sides of fireplace.

EQUIPMENT NEEDED

Blueprints
Brick
Firebrick
Mortar
Fire clay mortar
Trowel
Plumb bob
Level

TEXTBOOK — Bricklaying Skill and Practice

INSTRUCTOR'S RESPONSIBILITIES

1. Lecture for Learning Activity 2.
2. Prepare a quiz for Learning Activity 2.
3. Lecture/demonstration for Learning Activity 3.

SUMMARY OF EVALUATION

Laying the sides of a fireplace according to specifications given.

MODULE 12 — Constructing Residential Chimneys and Fireplaces

COMPETENCY STATEMENT 04 — Insert a damper.

EQUIPMENT NEEDED

Blueprints
Plumb bob
Level
Brick
Firebrick
Mortar
Fire clay mortar
Trowel
Concrete
Damper

TEXTBOOK — Bricklaying Skill and Practice

INSTRUCTOR'S RESPONSIBILITIES

Lecture/demonstration for Learning Activity 2.

SUMMARY OF EVALUATION

Laying the back of a fireplace according to specifications given.

## Answers

### Learning Activity #2

a. 2 - 3 x 3 x 1/4

b. 2 - 3 x 3 x 1/4

c. 2 x 8 or 2 - 2 x 4

d. 2 - 3 1/2 x 3 1/2 x 1/4

e. 2 - 4 x 4 x 4 1/4

f. 2 - 3 1/2 x 3 1/2 x 1/4

MODULE 12 — Constructing Residential Chimneys and Firepalces

COMPETENCY STATEMENT 05 — Set flues.

EQUIPMENT NEEDED

Blueprints
Brick
Firebrick
Mortar
Fire clay mortar
Trowel
Clay tile flue linings
Plumb bob
Level
Hammer
Chisel

TEXTBOOK — Bricklaying Skill and Practice

INSTRUCTOR'S RESPONSIBILITIES

1. Prepare a quiz for Learning Activity 1.
2. Lecture/demonstration for Learning Activity 2.

SUMMARY OF EVALUATION

Setting a flue according to specifications given.

MODULE 12 — Constructing Residential Chimneys and Fireplaces

COMPETENCY STATEMENTS 06 — Enclose heatilator.

EQUIPMENT NEEDED

Brick
Firebrick
Mortar
Fire clay mortar
Trowel
Level
Plumb bob
Blueprints
Heatilator

TEXTBOOK — None

INSTRUCTOR'S RESPONSIBILITIES

1. Arrange for lecture by sales representative for Learning Activity 1.
2. Lecture/demonstration for Learning Activity 2.

SUMMARY OF EVALUATION

Written report on steps to follow in enclosing a heatilator.
Students may not use references.

MODULE 12 — Constructing Residential Chimneys and Fireplaces

COMPETENCY STATEMENT 07 — Build a double face chimney (Smoke Chamber).

EQUIPMENT NEEDED

Brick
Firebrick
Mortar
Fire clay mortar
Fire clay flue liner
Trowel
Hammer
Chisel
Level
Plum bob
Flashing

TEXTBOOK — Modern Masonry

INSTRUCTOR'S RESPONSIBILITIES

1. Prepare a quiz for Learning Activity 1.
2. Lecture for Learning Activity 2.

SUMMARY OF EVALUATION

Building a smoke chamber according to specifications given.

MODULE 12 — Constructing Residential Chimneys and Fireplaces

COMPETENCY STATEMENT 08 — Lay a mantel.

EQUIPMENT NEEDED

Brick
Firebrick
Mortar
Fire clay mortar
Trowel
Plum bob
Level
Blueprints
Angle irons

TEXTBOOK — The Art of Bricklaying

INSTRUCTOR'S RESPONSIBILITIES

Lecture/demonstration for Learning Activity 2.

SUMMARY OF EVALUATION

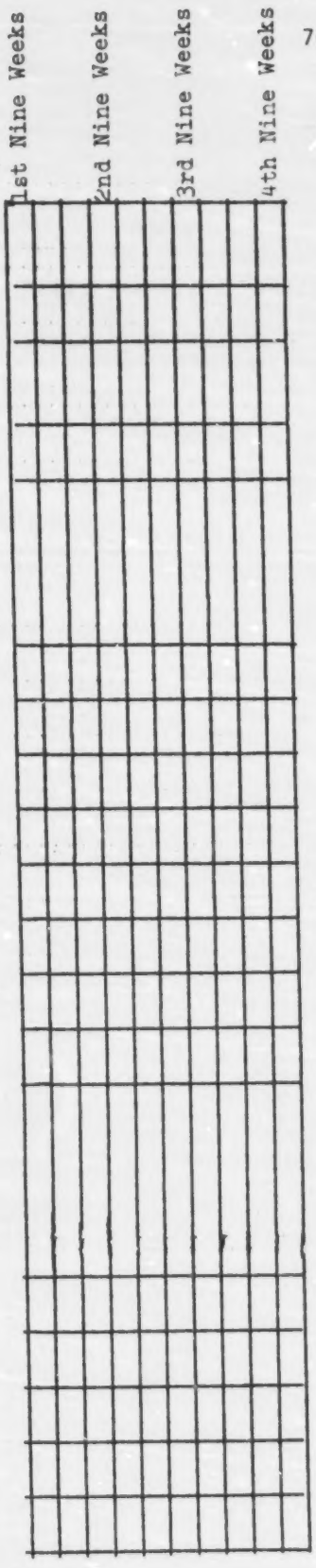
Laying a mantel according to specifications given.

GRADE CARDS

## STUDENT GRADE CARD

## MASONRY

| | | 1st Nine Weeks | | | 2nd Nine Weeks | | | 3rd Nine Weeks | | | 4th Nine Weeks | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODULE 01 | Occupational Knowledge | | | | | | | | | | | | |
| COMPETENCY STATEMENT 01 | Describes working conditions and earnings common to masons. REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 02 | Describes educational and technical requirements for masons. REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 03 | Describes employment outlook for masonry occupations. REMARKS: | | | | | | | | | | | | |
| MODULE 02 | Leveling, Gaging and Squaring | | | | | | | | | | | | |
| COMPETENCY STATEMENT 01 | Gage masonry wall with mortar scale. REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 02 | Gage masonry wall with story pole. REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 03 | Determine if surface is plumb, level and square. REMARKS: | | | | | | | | | | | | |
| MODULE 03 | Laying Basics | | | | | | | | | | | | |
| COMPETENCY STATEMENT 01 | Cut a bat closure. REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 02 | Cut a queen closure. REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 03 | Bond a wall. REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 04 | Mix mortar with power mixer. REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 05 | Lay a stretcher course. REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 06 | Lay a header course (full). REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 07 | Lay corners REMARKS: | | | | | | | | | | | | |
| MODULE 04 | Tooling and Pointing Joints | | | | | | | | | | | | |
| COMPETENCY STATEMENT 01 | Tool concave joints. REMARKS: | | | | | | | | | | | | |




MODULE 08 — Preparing Foundations and Footings

COMPETENCY STATEMENT 01 — Build forms for concrete.
REMARKS:

COMPETENCY STATEMENT 02 — Construct piers.
REMARKS:

COMPETENCY STATEMENT 03 — Construct a wall containing pilasters.
REMARKS:

COMPETENCY STATEMENT 04 — Raise a foundation.
REMARKS:

MODULE 09 — Constructing Buildings

COMPETENCY STATEMENT 01 — Install wall ties.
REMARKS:

COMPETENCY STATEMENT 02 — Place beams.
REMARKS:

COMPETENCY STATEMENT 03 — Pour concrete.
REMARKS:

COMPETENCY STATEMENT 04 — Make reinforced lintels.
REMARKS:

COMPETENCY STATEMENT 05 — Set lintels.
REMARKS:

COMPETENCY STATEMENT 06 — Construct sills (Rowlock).
REMARKS:

COMPETENCY STATEMENT 07 — Set window
REMARKS:

COMPETENCY STATEMENT 08 — Use anchors to tie walls together.
REMARKS:

COMPETENCY STATEMENT 09 — Lay a flight of steps.
REMARKS:

MODULE 10 — Performing Miscellaneous Masonry Work

COMPETENCY STATEMENT 01 — Clean brick walls.
REMARKS:

COMPETENCY STATEMENT 02 — Lay glass blocks.
REMARKS:

COMPETENCY STATEMENT 03 — Lay structural clay tile.
REMARKS:

COMPETENCY STATEMENT 04 — Lay masonry floors.
REMARKS:

COMPETENCY STATEMENT 05 — Lay masonry walks.
REMARKS:

COMPETENCY STATEMENT 06 — Estimate masonry materials needed.
REMARKS:

| | | 1st Nine Weeks | | | 2nd Nine Weeks | | | 3rd Nine Weeks | | | 4th Nine Weeks | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODULE 04 | Tooling and Pointing Joints | | | | | | | | | | | | |
| COMPETENCY STATEMENT 02 | Tool rake joints.<br>REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 03 | Tool squeeze joints.<br>REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 04 | Point a wall.<br>REMARKS: | | | | | | | | | | | | |
| MODULE 05 | Patterns | | | | | | | | | | | | |
| COMPETENCY STATEMENT 01 | Lay rowlock, sailor, shiner and soldier courses.<br>REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 02 | Lay common bond pattern.<br>REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 03 | Lay a Flemish bond pattern.<br>REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 04 | Lay a stack bond pattern.<br>REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 05 | Lay a diamond pattern.<br>REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 06 | Lay a herringbone bond pattern.<br>REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 07 | Lay a basket weave pattern.<br>REMARKS: | | | | | | | | | | | | |
| MODULE 06 | Wall Construction | | | | | | | | | | | | |
| COMPETENCY STATEMENT 01 | Reinforce brick masonry.<br>REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 02 | Construct brick veneer wall.<br>REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 03 | Construct cavity wall.<br>REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 04 | Form a corbel.<br>REMARKS: | | | | | | | | | | | | |
| MODULE 07 | Laying Columns | | | | | | | | | | | | |
| COMPETENCY STATEMENT 01 | Build square brick columns.<br>REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 02 | Build rectangular brick columns.<br>REMARKS: | | | | | | | | | | | | |
| COMPETENCY STATEMENT 03 | Build round brick columns.<br>REMARKS: | | | | | | | | | | | | |

| | | 1st Nine Weeks | | 2nd Nine Weeks | | | 3rd Nine Weeks | | | 4th Nine Weeks | |
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| MODULE 11 | Arches | | | | | | | | | | |
| COMPETENCY STATEMENT 01 | Build a roman arch.<br>REMARKS: | | | | | | | | | | |
| COMPETENCY STATEMENT 02 | Build a soldier arch.<br>REMARKS: | | | | | | | | | | |
| MODULE 12 | Constructing Residential Chimneys and Fireplaces | | | | | | | | | | |
| COMPETENCY STATEMENT 01 | Lay bottom of fireplace.<br>REMARKS: | | | | | | | | | | |
| COMPETENCY STATEMENT 02 | Lay back of fireplace.<br>REMARKS: | | | | | | | | | | |
| COMPETENCY STATEMENT 03 | Lay sides of fireplace.<br>REMARKS: | | | | | | | | | | |
| COMPETENCY STATEMENT 04 | Insert a damper.<br>REMARKS: | | | | | | | | | | |
| COMPETENCY STATEMENT 05 | Set flues.<br>REMARKS: | | | | | | | | | | |
| COMPETENCY STATEMENT 06 | Enclose heatilator.<br>REMARKS: | | | | | | | | | | |
| COMPETENCY STATEMENT 07 | Build a double face chimney (Smoke Chamber).<br>REMARKS: | | | | | | | | | | |
| COMPETENCY STATEMENT 08 | Lay a mantel.<br>REMARKS: | | | | | | | | | | |